

Biochemical
and Biophysical
Research
Communications

B

B

R

C

EDITORS

Ernesto Carafoli

I. C. Gunsalus

Akira Ichihara

James D. Jamieson

Yasuo Kagawa

M. Daniel Lane

William J. Lennarz

Masami Muramatsu

Tsuneo Omura

Sten Orrenius

Jacques Pouyssegur

William S. Reznikoff

Volume 261, 1999



ACADEMIC PRESS

Copyright © 1999 by Academic Press

ALL RIGHTS RESERVED

No part of this publication may be reproduced or transmitted in any form, or by any means, electronic or mechanical, including photocopy, recording, or any information storage and retrieval system, without permission in writing from the Publisher. *Exceptions:* Explicit permission from Academic Press is not required to reproduce a maximum of two figures or tables from an Academic Press article in another scientific or research publication provided that the material has not been credited to another source and that full credit to the Academic Press article is given. In addition, authors of work contained herein need not obtain permission in the following cases only: (1) to use their original figures or tables in their future works; (2) to make copies of their papers for use in their classroom teaching; and (3) to include their papers as part of their dissertations.

The appearance of the code at the bottom of the first page of an article in this journal indicates the Publisher's consent that copies of the article may be made for personal or internal use, or for the personal or internal use of specific clients. This consent is given on the condition, however, that the copier pay the stated per copy fee through the Copyright Clearance Center, Inc. (222 Rosewood Drive, Danvers, Massachusetts 01923), for copying beyond that permitted by Sections 107 or 108 of the U.S. Copyright Law. This consent does not extend to other kinds of copying, such as copying for general distribution, for advertising or promotional purposes, for creating new collective works, or for resale. Copy fees for pre-1999 articles are as shown on the article title pages; if no fee code appears on the title page, the copy fee is the same as for current articles.

0006-291X/99 \$30.00

MADE IN THE UNITED STATES OF AMERICA

This journal is printed on acid-free paper.



CONTENTS OF VOLUME 261

Number 1, July 22, 1999

Distinct Effects on the Conformation of Estrogen Receptor α and β by Both the Antiestrogens ICI 164,384 and ICI 182,780 Leading to Opposite Effects on Receptor Stability	Gert-Jan C. M. Van Den Bemd, George G. J. M. Kuiper, Huibert A. P. Pols, and Johannes P. T. M. Van Leeuwen	1
Flow Stimulates Nitric Oxide Release in Guinea Pig Heart: Role of Stretch-Activated Ion Channels	Jorge Suárez, Carlos Torres, Lourdes Sánchez, Leonardo del Valle, and Gustavo Pastelín	6
Arginine Deiminase Inhibits Cell Proliferation by Arresting Cell Cycle and Inducing Apoptosis	Hong Gong, Friedo Zölzer, Gottfried von Recklinghausen, Jochen Rössler, Stephen Breit, Werner Havers, Theodore Fotsis, and Lothar Schweigerer	10
Gastric Mucosal Inflammatory Responses to <i>Helicobacter pylori</i> Lipopolysaccharide: Down-regulation of Nitric Oxide Synthase-2 and Caspase-3 by Sulglycotide	Bronislaw L. Slomiany, Jerzy Piotrowski, and Amalia Slomiany	15
Cloning, Expression, and Chromosomal Mapping of a Human Ganglioside Sialidase	Tadashi Wada, Yuko Yoshikawa, Satoru Tokuyama, Masaaki Kuwabara, Hirotoshi Akita, and Taeko Miyagi	21
The Antioxidant Defense Protein Ferritin Is a Novel and Specific Target for Pentaerithrityl Tetranitrate in Endothelial Cells	Stefanie Oberle, Petra Schwartz, Aida Abate, and Henning Schröder	28
Cloning of Differentially Expressed Genes in Highly and Low Metastatic Rat Osteosarcomas by a Modified cDNA-AFLP Method	Tomokazu Fukuda, Akira Kido, Kazunori Kajino, Masahiro Tsutsumi, Yoshizumi Miyauchi, Toshifumi Tsujiuchi, Yoichi Konishi, and Okio Hino	35
Retinol, a Probe of Conformational Changes in Protein Disulfide Isomerase	Jorge E. Churchich	41
Molecular Analyses of Five New Chimpanzee MHC Class I Alleles: Implications for Differences between Evolutional Mechanisms of HLA-A, -B, and -C Loci	Masanori Matsui, Sanae Machida, Stephen M. Feinstone, and Toshitaka Akatsuka	46
Identification of the Region of <i>mi</i> Transcription Factor Which Is Responsible for the Synergy with PEBP2/CBF	Eiichi Morii, Hideki Ogihara, Tomohiko Kanno, Dae-Ki Kim, Shintaro Nomura, Yoshiaki Ito, and Yukihiro Kitamura	53
Thrombopoietin Potentiates Agonist-Stimulated Activation of p38 Mitogen-Activated Protein Kinase in Human Platelets	Yasuharu Ezumi, Eisuke Nishida, Takashi Uchiyama, and Hiroshi Takayama	58
A Novel Human Gene Encoding an F-box/WD40 Containing Protein Maps in the SHFM3 Critical Region on 10q24	Peter Ianakiev, Michael W. Kilpatrick, Caroline Dealy, Robert Kosher, Julie R. Korenberg, Xiao-Ning Chen, and Petros Tsipouras	64

Cytochrome c Is Dispensable for Fas-Induced Caspase Activation and Apoptosis	Juliane Vier, Georg Linsinger, and Georg Häcker	71
Functional Consequences of a Carboxyl Terminal Missense Mutation Arg278Cys in Human Cardiac Troponin T	Sachio Morimoto, Hiroyuki Nakaura, Fumi Yanaga, and Iwao Ohtsuki	79
The MUC3 Gene Encodes a Transmembrane Mucin and Is Alternatively Spliced	Stephanie J. Williams, David J. Munster, Rachel J. Quin, David C. Gotley, and Michael A. McGuckin	83
HIV-1 Tat Protein Is Poly(ADP-ribosyl)ated <i>in Vitro</i>	Masanori Kameoka, Yasuharu Tanaka, Katsuya Ota, Asako Itaya, Keizo Yamamoto, and Koichiro Yoshihara	90
Inhibitory Effect of Phosphorylated Myosin Light Chain Kinase on the ATP-Dependent Actin-Myosin Interaction	Koichi Samizo, Tsuyoshi Okagaki, and Kazuhiro Kohama	95
Expression and Localization of Human Alcohol and Aldehyde Dehydrogenase Enzymes in Skin	Connie Cheung, Camilla K. Smith, Jan-Olov Hoog, and Sharon A. M. Hotchkiss	100
Glial Cell Line-Derived Neurotrophic Factor Induces Barrier Function of Endothelial Cells Forming the Blood-Brain Barrier	Yo Igarashi, Hiroyuki Utsumi, Hideki Chiba, Yumiko Yamada-Sasamori, Hirotohi Tobioka, Yasuhiro Kamimura, Ken Furuuchi, Yasuo Kokai, Takashi Nakagawa, Michio Mori, and Norimasa Sawada	108
High Mobility Group-like Protein in Bovine Milk Stimulates the Proliferation of Osteoblastic MC3T3-E1 Cells	Jun-ichi Yamamura, Yukihiro Takada, Masaaki Goto, Masayoshi Kumegawa, and Seiichiro Aoe	113
cAMP-Dependent Positive Control of Cyclin A2 Expression during G1/S Transition in Primary Hepatocytes	Chantal Desdouets, G. Hege Thoresen, Catherine Senamaud-Beaufort, Thoralf Christoffersen, Christian Brechot, and Joëlle Sobczak-Thepot	118
Reduced Mitochondrial Membrane Potential and Altered Responsiveness of a Mitochondrial Membrane Megachannel in p53-Induced Senescence	Mary M. Sugrue, Yan Wang, Hardy J. Rideout, Ruth M. E. Chalmers-Redman, and William G. Tatton	123
TAK-778, a Novel Synthetic 3-Benzothiepin Derivative, Promotes Chondrogenesis <i>in Vitro</i> and <i>in Vivo</i>	Haruhiko Akiyama, Akira Fukumoto, Chohei Shigeno, Hiromu Ito, Shogo Mukai, Tetsuo Hoshino, Haruhiko Makino, and Takashi Nakamura	131
Induction of Manganese-Superoxide Dismutase in MRC-5 Cells Persistently Infected with an <i>Alphavirus</i> , Sindbis	Yoshiyuki Yoshinaka, Yoshie Takahashi, Satoru Nakamura, Iyoko Katoh, Koji Takio, and Yoji Ikawa	139
High Extracellular Calcium Inhibits Osteoclast-like Cell Formation by Directly Acting on the Calcium-Sensing Receptor Existing in Osteoclast Precursor Cells	Masanori Kanatani, Toshitsugu Sugimoto, Michiko Kanzawa, Shozo Yano, and Kazuo Chihara	144
Endothelin Converting Enzyme Activity in Primary Rat Astrocytes Is Modulated by Endothelin B Receptors	Hannelore Ehrenreich, Bernd-Michael Löffler, Martin Hasselblatt, Hanno Langen, Jan Oldenburg, Thomas Subkowski, Lothar Schilling, and Anna-Leena Sirén	149

Cloning and Functional Characterization of CYP94A2, a Medium Chain Fatty Acid Hydroxylase from <i>Vicia sativa</i>	Renaud Le Bouquin, Franck Pinot, Irène Benveniste, Jean-Pierre Salaün, and Francis Durst	156
Identification and Localization of <i>MEP1A-like</i> Sequences (<i>MEP1AL1-4</i>) in the Human Genome	Weiping Jiang and Barbara G. Beatty	163
Gene Expression of a Novel Cytochrome P450 of the CYP4F Subfamily in Human Seminal Vesicles	Johan Bylund, Niklas Finnström, and Ernst H. Oliw	169
Experimental Induction of AGEs in Fetal L132 Lung Cells Changes the Level of Intracellular Cathepsin D	Michael Kasper, Reinhard Schinzel, Toshimitsu Niwa, Gerald Münch, Martin Witt, Heinz Fehrenbach, Michaela Wilsch-Bräuninger, Kerstin Pehlke, Andreas Hofer, and Richard H. W. Funk	175
Cloning and Functional Expression of a Human Heparanase Gene	Paul H. Kussie, Jeffrey D. Hulmes, Dale L. Ludwig, Sheetal Patel, Elizabeth C. Navarro, Andrew P. Seddon, Nicholas A. Giorgio, and Peter Bohlen	183
Pharbin, a Novel Inositol Polyphosphate 5-Phosphatase, Induces Dendritic Appearances in Fibroblasts	Takuya Asano, Yasuhiro Mochizuki, Ken Matsumoto, Tadaomi Takenawa, and Takeshi Endo	188
A Convenient Microscale Colorimetric Method for Terminal Galactose on Immunoglobulins	T. Shantha Raju, Namita Nayak, John Briggs, John V. O'Connor, and Laura Lerner	196
Hypertension Augments Ethanol-Induced Depression of Cell Shortening and Intracellular Ca^{2+} Transients in Adult Rat Ventricular Myocytes	Jun Ren and Ricardo A. Brown	202
Analogues of MTII, Lactam Derivatives of α -Melanotropin, Modified at the N-Terminus, and Their Selectivity at Human Melanocortin Receptors 3, 4, and 5	Maria A. Bednarek, Tanya Macneil, Rubana N. Kalyani, Rui Tang, Lex H. T. Van der Ploeg, and David H. Weinberg	209
Inhibition of Tumor Necrosis Factor α -Stimulated Aromatase Activity by Microtubule-Stabilizing Agents, Paclitaxel and 2-Methoxyestradiol	A. Purohit, A. Singh, M. W. Ghilchik, and M. J. Reed	214
Lipoxygenase Inhibitors Abolish Proliferation of Human Pancreatic Cancer Cells	Xian-Zhong Ding, Patrick Iversen, Michael W. Cluck, Joseph A. Knezetic, and Thomas E. Adrian	218

Number 2, August 2, 1999

BREAKTHROUGHS AND VIEWS

Molecular Mechanisms of Copper Homeostasis	J. Camakaris, I. Voskoboinik, and J. F. Mercer	225
--	--	-----

REGULAR ARTICLES

Silencer-Mediated Repression and Non-Mediated Activation of BDNF and <i>c-fos</i> Gene Promoters in Primary Glial or Neuronal Cells	Akiko Tabuchi, Chikako Nakatani, Ryuki Nakaoka, Yoshihisa Naruse, Takuya Kojima, Nozomu Mori, and Masaaki Tsuda	233
---	---	-----

Protein Expression in Liposomes	Thomas Oberholzer, Knud H. Nierhaus, and Pier Luigi Luisi	238
σ Receptor Ligand-Induced Up-Regulation of the H ⁺ /Peptide Transporter PEPT1 in the Human Intestinal Cell Line Caco-2	Takuya Fujita, Yoshikatsu Majikawa, Sayoko Umehisa, Naoki Okada, Akira Yamamoto, Vadivel Ganapathy, and Frederick H. Leibach	242
A Peptide of the α 3 Chain of Type IV Collagen Protects Basement Membrane against Damage by PMN	Zahra Ziaie, Abdelilah Fawzi, Georges Bellon, Jean-Claude Monboisse, and Nicholas A. Kefalides	247
Expression and Purification of Recombinant Human Granzyme B from <i>Pichia pastoris</i>	Jiuru Sun, Catherina H. Bird, Marguerite S. Buzza, Katherine E. McKee, James C. Whisstock, and Phillip I. Bird	251
Inhibition of Mutant p53 Phosphorylation at Serine 15 or Serine 315 Partially Restores the Function of Wild-Type p53	Emiko Sugikawa, Naoko Yazaki, Shiho Tsunoda, Noriyuki Nakanishi, and Motoaki Ohashi	256
Unusual Self-Association Properties of Transthyretin Y114C Related to Familial Amyloidotic Polyneuropathy: Effects on Detection and Quantification	Yukio Ando, Maria do Rosário Almeida, Per-Ingvar Ohlsson, Eiko Ando, Akira Negi, Ole Suhr, Hisayasu Terazaki, Konen Obayashi, Masayuki Ando, and Maria J. M. Saraiva	264
Recognition of Target DNA and Transcription Activation by the CO-Sensing Transcriptional Activator CooA	Shigetoshi Aono, Hidenori Takasaki, Hideaki Unno, Terue Kamiya, and Hiroshi Nakajima	270
Elasticity of Mutant Myosin Subfragment-1 Arranged on a Functional Silver Surface	Hitoshi Suda, Yuji C. Sasaki, Noboru Oishi, Nanae Hiraoka, and Kazuo Sutoh	276
CD31 (PECAM-1) Exists as a Dimer and Is Heavily N-Glycosylated	Justin P. Newton, Ann P. Hunter, David L. Simmons, Christopher D. Buckley, and David J. Harvey	283
The Mode of Chaperoning of Dithiothreitol- Denatured α -Lactalbumin by α -Crystallin	Frederick A. Bettelheim, Rafat Ansari, Qiu-Fang Cheng, and J. Samuel Zigler, Jr.	292
Serum Amyloid A, an Acute-Phase Protein, Modulates Proteoglycan Synthesis in Cultured Murine Peritoneal Macrophages	Rosemary Elliott-Bryant, Jeremiah E. Silbert, and Geetha Sugumaran	298
Balloon Injury Does Not Induce Heme Oxygenase- 1 Expression, but Administration of Hemin Inhibits Neointimal Formation in Balloon-Injured Rat Carotid Artery	Toru Aizawa, Nobukazu Ishizaka, Jun-ichi Taguchi, Satoshi Kimura, Kiyoshi Kurokawa, and Minoru Ohno	302
Inhibition of Vpr-Induced Cell Cycle Abnormality by Quercetin: A Novel Strategy for Searching Compounds Targeting Vpr	Mari Shimura, Yu Zhou, Yoshihisa Asada, Takafumi Yoshikawa, Kiyohiko Hatake, Fumimaro Takaku, and Yukihito Ishizaka	308
Targeting Double-Strand Breaks to Replicating DNA Identifies a Subpathway of DSB Repair That Is Defective in Ataxia-Telangiectasia Cells	Robert T. Johnson, Eisuke Gotoh, Ann M. Mullinger, Anderson J. Ryan, Yosef Shiloh, Yael Ziv, and Shoshana Squires	317
Elevated Expression of Free Deaminoneuraminic Acid in Mammalian Cells Cultured in Mannose- Rich Media	Takashi Angata, Daisuke Nakata, Tsukasa Matsuda, and Ken Kitajima	326

Polymorphisms in the <i>SOD2</i> and <i>HLA-DRB1</i> Genes Are Associated with Nonfamilial Idiopathic Dilated Cardiomyopathy in Japanese	Shitoshi Hiroi, Haruhito Harada, Hirofumi Nishi, Manatsu Satoh, Ryoza Nagai, and Akinori Kimura	332
Two Compounds Commonly Used for Phospholipase C Inhibition Activate the Nuclear Estrogen Receptors	Bruno Cenni and Didier Picard	340
Increased Vasoconstrictor Response of the Mouse Lacking Angiotensin II Type 2 Receptor	Masahiro Akishita, Hiroyuki Yamada, Victor J. Dzau, and Masatsugu Horiuchi	345
Targeted Disruption of CRE-Binding Factor TREB5 Gene Leads to Cellular Necrosis in Cardiac Myocytes at the Embryonic Stage	Tamotsu Masaki, Mitsuaki Yoshida, and Shigeru Noguchi	350
Heat Shock Cognate Protein 70 Is a Cell Fusion-Enhancing Factor but Not an Entry Factor for Human T-Cell Lymphotropic Virus Type I	Deyu Fang, Yuji Haraguchi, Atsushi Jinno, Yasushi Soda, Nobuaki Shimizu, and Hiroo Hoshino	357
Processing and Transport of ROMK1 Channel Is Temperature-Sensitive	Manuel Brejon, Sophie Le Maout, Paul A. Welling, and Jean Merot	364
Differential Regulation of 46 and 54 kDa Jun N-Terminal Kinases and p38 Mitogen-Activated Protein Kinase by Human α_{1A} -Adrenoceptors Expressed in Rat-1 Cells	Alexander Alexandrov, Susanne Keffel, Mark Goepel, and Martin C. Michel	372
Determination of Optimal Parameters for <i>in Vivo</i> Gene Transfer by Electroporation, Using a Rapid <i>in Vivo</i> Test for Cell Permeabilization	Julie Gehl and Lluís M. Mir	377
Characterization of the Promoter Region of the Human <i>RFP</i> Gene	Yosuke Iwata, Atsuo Nakayama, Hideki Murakami, Ken-ichi Iida, Toshihide Iwashita, Naoya Asai, and Masahide Takahashi	381
Tumor Necrosis Factor Induces Distinct Patterns of Caspase Activation in WEHI-164 Cells Associated with Apoptosis or Necrosis Depending on Cell Cycle Stage	Paulo R. Faraco, Elizabeth C. Ledgerwood, Peter Vandenabeele, Johannes B. Prins, and John R. Bradley	385
Molecular Cloning and Expression Analysis of a Mouse Phospholipase C- $\delta 1$	Woon Kyu Lee, Jong Kee Kim, Min-Seok Seo, Jung-Ho Cha, Kyung Jin Lee, Hyoung Kyun Rha, Do Sik Min, Yang-Hyeok Jo, and Kweon-Haeng Lee	393
Identification of a Novel Enhancer Sequence in the Distal Promoter of the Rat Fatty Acid Synthase Gene	Caterina Rufo, Daniela Gasperikova, Steven D. Clarke, Margarita Teran-Garcia, and Manabu T. Nakamura	400
Association of the HGF/SF Receptor, c-met, with the Cell-Surface Adhesion Molecule, E-Cadherin, and Catenins in Human Tumor Cells	S. Hiscox and W. G. Jiang	406
Molecular Cloning of Rat efp: Expression and Regulation in Primary Osteoblasts	Satoshi Inoue, Tomohiko Urano, Sumito Ogawa, Tomoyuki Saito, Akira Orimo, Takayuki Hosoi, Yasuyoshi Ouchi, and Masami Muramatsu	412
Regulation of Stretch-Activated Intracellular Calcium Transients by Actin Filaments	Z. Wu, K. Wong, M. Glogauer, R. P. Ellen, and C. A. G. McCulloch	419

Leptin Directly Stimulates Catecholamine Secretion and Synthesis in Cultured Porcine Adrenal Medullary Chromaffin Cells	Kazuhiro Takekoshi, Masahiko Motooka, Kazumasa Isobe, Fumio Nomura, Toru Manmoku, Kiyoaki Ishii, and Toshiaki Nakai	426
Isolation and Characterization of Kidney-Specific CLC-K2 Chloride Channel Gene Promoter	Tatemitsu Rai, Shinichi Uchida, Sei Sasaki, and Fumiaki Marumo	432
Regulation of Intracellular ATP Concentration under Conditions of Reduced ATP Consumption in Pancreatic Islets	Yoshiyuki Tsuura, Shimpei Fujimoto, Mariko Kajikawa, Hitoshi Ishida, and Yutaka Seino	439
Codon Optimization Effect on Translational Efficiency of DNA Vaccine in Mammalian Cells: Analysis of Plasmid DNA Encoding a CTL Epitope Derived from Microorganisms	Toshi Nagata, Masato Uchijima, Atsushi Yoshida, Minae Kawashima, and Yukio Koide	445
Interplay between the Efflux Pump and the Outer Membrane Permeability Barrier in Fluorescent Dye Accumulation in <i>Pseudomonas aeruginosa</i>	Monika Germ, Eisaku Yoshihara, Hiroshi Yoneyama, and Taiji Nakae	452
PPAR γ Activation Induces the Expression of the Adipocyte Fatty Acid Binding Protein Gene in Human Monocytes	Patricia D. Pelton, Lubing Zhou, Keith T. Demarest, and Thomas P. Burris	456
A <i>Drosophila</i> CDK5 α -like Molecule and Its Possible Role in Response to O ₂ Deprivation	Enbo Ma and Gabriel Haddad	459
The p38MAPK Inhibitor SB203580 Alleviates Ultraviolet-Induced Phosphorylation at Serine 389 but Not Serine 15 and Activation of p53	David Keller, Xiaoya Zeng, Xiaorong Li, Mini Kapoor, Mihail S. Iordanov, Yoichi Taya, Guillermina Lozano, Bruce Magun, and Hua Lu	464
Study of the Relationship between Sticky Human Serum IgA1 and Its O-Glycan Glycoform	Hitoo Iwase, Shinji Ohkawa, Ikuko Ishii-Karakasa, Yoshiyuki Hiki, Tohru Kokubo, Takashi Sano, Atsushi Tanaka, Kazunori Toma, Yutaka Kobayashi, and Kyoko Hotta	472
Oxidative DNA Damage by Minor Metabolites of Toluene May Lead to Carcinogenesis and Reproductive Dysfunction	Mariko Murata, Mayumi Tsujikawa, and Shosuke Kawanishi	478
Carnitine Transporter OCTN2 Mutations in Systemic Primary Carnitine Deficiency: A Novel Arg169Gln Mutation and a Recurrent Arg282ter Mutation Associated with an Unconventional Splicing Abnormality	Barbara Burwinkel, Joachim Kreuder, Susanne Schweitzer, Matthias Vorgerd, Klaus Gempel, Klaus-Dieter Gerbitz, and Manfred W. Kilimann	484
The Epithelial Calcium Channel, ECaC, Is Activated by Hyperpolarization and Regulated by Cytosolic Calcium	Joost G. J. Hoenderop, Annemiete W. C. M. van der Kemp, Anita Hartog, Carel H. van Os, Peter H. G. M. Willems, and René J. M. Bindels	488
The Genomic Organization and Polymorphism Analysis of the Human Niemann-Pick C1 Gene	Jill A. Morris, Dana Zhang, Katherine G. Coleman, James Nagle, Peter G. Pentchev, and Eugene D. Carstea	493

Piceatannol, a Stilbene Phytochemical, Inhibits Mitochondrial F0F1-ATPase Activity by Targeting the F1 Complex	Jianbiao Zheng and Victor D. Ramirez	499
Inhibition of Calcium Signaling in Ultraviolet-Irradiated Fibroblasts: Role of Tyrosine Phosphorylation and Protein Kinase C	Sebanti Bagchi, Gayaram Bhaumik, and Sanghamitra Raha	504
Cellular Source(s) of Platelet-Activating-Factor Acetylhydrolase Activity in Plasma	Koichiro Asano, Shinichiro Okamoto, Kouichi Fukunaga, Tetsuya Shiomi, Takehiko Mori, Makiko Iwata, Yasuo Ikeda, and Kazuhiro Yamaguchi	511
Combined SSCP and Heteroduplex Analysis of the Human Plasma Membrane Ca ²⁺ -ATPase Isoform 1 in Patients with Essential Hypertension	C. Benkowitz, S. Oberdorf-Maass, and L. Neyses	515
Functional Estrogen Receptor β in Colon Cancer Cells	Gianna Fiorelli, Lucia Picariello, Valentina Martinetti, Francesco Tonelli, and Maria Luisa Brandi	521
Role of Phosphorylation and Physiological State in the Regulation of the Muscular Chloride Channel CIC-1: A Voltage-Clamp Study on Isolated <i>M. interosseus</i> Fibers	Mei-Fang Chen and Harald Jockusch	528
HIF1A Gene Transcription Is Dependent on a Core Promoter Sequence Encompassing Activating and Inhibiting Sequences Located Upstream from the Transcription Initiation Site and <i>cis</i> Elements Located within the 5'UTR	E. Minet, I. Ernest, G. Michel, I. Roland, J. Remacle, M. Raes, and C. Michiels	534
Identification of a Novel Splice Variant of Heat Shock Cognate Protein 70 after Chronic Antidepressant Treatment in Rat Frontal Cortex	Misa Yamada, Mitsuhiko Yamada, Yuji Kiuchi, Keinosuke Nara, Yuko Kanda, Shigeru Morinobu, Kazutaka Momose, Katsuji Oguchi, Kunitoshi Kamijima, and Teruhiko Higuchi	541

ERRATA

Volume 248 , Number 1 (1998), in Article No. RC988916, "The Localization of the Site of Arylalkylamine <i>N</i> -Acetyltransferase Circadian Expression in the Photoreceptor Cells of Mammalian Retina," by Tomoko Niki, Toshiyuki Hamada, Michiko Ohtomi, Katsuhiko Sakamoto, Satoru Suzuki, Koichiro Kako, Yasuhiko Hosoya, Kazumasa Horikawa, and Norio Ishida, pages 115–120	546
Volume 258 , Number 3 (1999), in Article ID bbrc.1999.0668, "The Expression of the Melatonin Synthesis Enzyme: Arylalkylamine <i>N</i> -Acetyltransferase in the Suprachiasmatic Nucleus of Rat Brain," by Toshiyuki Hamada, Michiko Ootomi, Kazumasa Horikawa, Tomoko Niki, Hisanori Wakamatu, and Norio Ishida, pages 772–777	546

Number 3, August 11, 1999

Increased Number of Caveolae and Caveolin-3 Overexpression in Duchenne Muscular Dystrophy	Silvia Repetto, Massimo Bado, Paolo Broda, Giuseppe Lucania, Emiliana Masetti, Federica Sotgia, Ilaria Carbone, Antonio Pavan, Eduardo Bonilla, Giuseppe Cordone, Michael P. Lisanti, and Carlo Minetti	547
---	---	-----

Characterization and Phosphorylation of PDE10A2, a Novel Alternative Splice Variant of Human Phosphodiesterase That Hydrolyzes cAMP and cGMP	Jun Kotera, Kotomi Fujishige, Keizo Yuasa, and Kenji Omori	551
Identification of a Point Mutation in the <i>para</i> -Type Sodium Channel Gene from a Pyrethroid-Resistant Cattle Tick	Haiqi He, Andrew C. Chen, Ronald B. Davey, G. Wayne Ivie, and John E. George	558
Identification of an Extracellular Catalyst of Carbon Tetrachloride Dehalogenation from <i>Pseudomonas stutzeri</i> Strain KC as Pyridine-2,6-bis(thiocarboxylate)	Chang-Ho Lee, Thomas A. Lewis, Andrzej Paszczynski, and Ronald L. Crawford	562
An Immunoluminometric Assay for Cardiotrophin-1: A Newly Identified Cytokine Is Present in Normal Human Plasma and Is Increased in Heart Failure	S. Talwar, P. F. Downie, I. B. Squire, D. B. Barnett, J. D. Davies, and L. L. Ng	567
Retinoic Acid Receptor α Mediates Growth Inhibition by Retinoids in Human Colon Carcinoma HT29 Cells	Barbara Nicke, Astrid Kaiser, Bertram Wiedenmann, Ernst-Otto Riecken, and Stefan Rosewicz	572
Spontaneous Deamidation and Isomerization of Asn108 in Prion Peptide 106–126 and in Full-Length Prion Protein	E. Sandmeier, P. Hunziker, B. Kunz, R. Sack, and P. Christen	578
DNA Sequence Analysis of Spontaneous <i>tonB</i> Deletion Mutations in a <i>polA1</i> Strain of <i>Escherichia coli</i> K12	Yumi Agemizu, Norio Uematsu, and Kazuo Yamamoto	584
The Degradation of Nascent Fibrinogen Chains Is Mediated by the Ubiquitin Proteasome Pathway	Hui Xia and Colvin Redman	590
Rapid and Efficient Inactivation of IL-6 Gingipains, Lysine- and Arginine-Specific Proteinases from <i>Porphyromonas Gingivalis</i>	Agnieszka Banbula, Marcin Bugno, Andrea Kuster, Peter C. Heinrich, James Travis, and Jan Potempa	598
The 90-kDa Junctional Sarcoplasmic Reticulum Protein Forms an Integral Part of a Supramolecular Triad Complex in Skeletal Muscle	Gabriele R. Froemming, Dirk Pette, and Kay Ohlendieck	603
Characterization of Residues in Human IgE and IgG Binding Site by Chemical Modification of Ovomucoid Third Domain	Jie Wei Zhang and Yoshinori Mine	610
Human ZHX1: Cloning, Chromosomal Location, and Interaction with Transcription Factor NF-Y	Kazuya Yamada, Richard L. Printz, Haruhiko Osawa, and Daryl K. Granner	614
Isolation and Identification of Melanin-Concentrating Hormone as the Endogenous Ligand of the SLC-1 Receptor	Yukio Shimomura, Masaaki Mori, Tsukasa Sugo, Yoshihiro Ishibashi, Michiko Abe, Tsutomu Kurokawa, Haruo Onda, Osamu Nishimura, Yasuhiro Sumino, and Masahiko Fujino	622
The AU-Rich 3' Untranslated Region of Human MDR1 mRNA Is an Inefficient mRNA Destabilizer	Rebecca D. Prokipcak, Afshin Raouf, and Chunja Lee	627
The Elastin-like Protein Matrix of Lamprey Branchial Cartilage Is Cross-Linked by Lysyl Pyridinoline	Russell J. Fernandes and David R. Eyre	635

JNK/SAPK Activation by Platelet-Derived Growth Factor in A431 Cells Requires Both the Phospholipase C- γ and the Phosphatidylinositol 3-Kinase Signaling Pathways of the Receptor	Zerihun Assefa, Mindaugas Valius, Tibor Vántus, Patrizia Agostinis, Wilfried Merlevede, and Jackie R. Vandenheede	641
hnRNP A2 and hnRNP L Bind the 3'UTR of Glucose Transporter 1 mRNA and Exist as a Complex <i>in Vivo</i>	B. JoNell Hamilton, Ralph C. Nichols, Haruhisa Tsukamoto, Ruben J. Boado, William M. Pardridge, and William F. C. Rigby	646
Multi-Site Modulation of Flux during Monolignol Formation in Loblolly Pine (<i>Pinus taeda</i>)	Aldwin M. Anterola, Hendrik van Rensburg, Pieter S. van Heerden, Laurence B. Davin, and Norman G. Lewis	652
CYP2A6 Gene Deletion Reduces Susceptibility to Lung Cancer	Masami Miyamoto, Yuri Umetsu, Hirotohi Dosaka-Akita, Yuichi Sawamura, Jun Yokota, Hideo Kunitoh, Nobuo Nemoto, Kunio Sato, Noritaka Ariyoshi, and Tetsuya Kamataki	658
Up-Regulation of the Human γ -Glutamylcysteine Synthetase Regulatory Subunit Gene Involves Binding of Nrf-2 to an Electrophile Responsive Element	Helen R. Moinova and R. Timothy Mulcahy	661
Characterization of a Novel Allergen, a Major IgE-Binding Protein from <i>Aspergillus flavus</i> , as an Alkaline Serine Protease	Chia-Jung Yu, Shyh-Horng Chiou, Wei-Yu Lai, Bor-Luen Chiang, and Lu-Ping Chow	669
Minithioredoxin: A Folded and Functional Peptide Fragment of Thioredoxin	Alokesh K. Ghoshal	676
Glibenclamide Induces Apoptosis through Inhibition of Cystic Fibrosis Transmembrane Conductance Regulator (CFTR) Cl ⁻ Channels and Intracellular Ca ²⁺ Release in HepG2 Human Hepatoblastoma Cells	Jung-Ae Kim, Young Shin Kang, Sun Hee Lee, Eun-Hee Lee, Byong Hoon Yoo, and Yong Soo Lee	682
Effects of Exposure to Repetitive Pulsed Magnetic Stimulation on Cell Proliferation and Expression of Heat Shock Protein 70 in Normal and Malignant Cells	Giichiro Tsurita, Shoogo Ueno, Nelson H. Tsuno, Hirokazu Nagawa, and Tetsuichiro Muto	689
Spatial Organization of EGF Receptor Transmodulation by PDGF	Pingsheng Liu and Richard G. W. Anderson	695
Characterization of Cybrid Cell Lines Containing mtDNA from Huntington's Disease Patients	Russell H. Swerdlow, Janice K. Parks, David S. Cassarino, A. Tanner Shilling, James P. Bennett, Jr., Madaline B. Harrison, and W. Davis Parker, Jr.	701
The 5'-Flanking Sequence and Regulatory Elements of the Cystatin S Gene	Phyllis A. Shaw and Orlando Chaparro	705
The Trace and Subgrouping of Lymphocyte Activation by Dynamic Fluorescence Intensity and Polarization Measurements	Merav Sunray, Menachem Kaufman, Naomi Zurgil, and Mordechai Deutsch	712
Tyrosinase Folding and Copper Loading <i>in Vivo</i> : A Crucial Role for Calnexin and α -Glucosidase II	N. Branza-Nichita, A. J. Petrescu, R. A. Dwek, M. R. Wormald, F. M. Platt, and S. M. Petrescu	720

Cholecystokinin-Evoked Ca^{2+} Waves in Isolated Mouse Pancreatic Acinar Cells Are Modulated by Activation of Cytosolic Phospholipase A_2 , Phospholipase D, and Protein Kinase C	Antonio González, Andreas Schmid, Lutz Sternfeld, Elmar Krause, Ginés M. Salido, and Irene Schulz	726
Activator-Specific Requirement for the General Transcription Factor IIE in Yeast	Hiroshi Sakurai and Toshio Fukasawa	734
Purification and Characterization of an RNA Dodecamer Sequence Binding Protein from Mitochondria of <i>Saccharomyces cerevisiae</i>	Huilin Li and H. Peter Zassenhaus	740
Three New Types of Apaf-1 in Mammalian Cells	Corinna Hahn, Burkhard Hirsch, Diana Jahnke, Horst Dürkop, and Harald Stein	746
Loss of Cytoplasmic Retention Ability of Mutant LKB1 Found in Peutz-Jeghers Syndrome Patients	Jun-ichi Nezu, Asuka Oku, and Miyuki Shimane	750
Characterization of a Novel Member of the FGF Family, XFGF-20, in <i>Xenopus laevis</i>	Chie Koga, Naoki Adati, Katsunori Nakata, Katsuhiko Mikoshiba, Yoshiaki Furuhata, Shinji Sato, Hajime Tei, Yoshiyuki Sakaki, Tsutomu Kurokawa, Koichiro Shiokawa, and Kazunari K. Yokoyama	756
Stress-Responsive and Developmental Regulation of Δ^1 -Pyrroline-5-carboxylate Synthetase 1 (P5CS1) Gene Expression in <i>Arabidopsis thaliana</i>	Yoshu Yoshiba, Tokihiko Nanjo, Setsuko Miura, Kazuko Yamaguchi-Shinozaki, and Kazuo Shinozaki	766
A Point Mutation in a Plasma Membrane Ca^{2+} -ATPase Gene Causes Deafness in <i>Wriggle Mouse Sagami</i>	Katsumasa Takahashi and Ken Kitamura	773
Glutathione Transferase Zeta-Catalyzed Biotransformation of Deuterated Dihaloacetic Acids	Michael F. Wempe, Wayne B. Anderson, Huey-fen Tzeng, Philip G. Board, and M. W. Anders	779
Characterization of Liposomes Carrying von Willebrand Factor-Binding Domain of Platelet Glycoprotein Ib α : A Potential Substitute for Platelet Transfusion	Tetsuya Kitaguchi, Mitsuru Murata, Kaori Iijima, Kaeko Kamide, Takashi Imagawa, and Yasuo Ikeda	784
The Carboxyl Methyltransferase Modifying G Proteins Is a Metalloenzyme	Richard R. Desrosiers, Quynh-Tran Nguyen, and Richard Béliveau	790
Maize Transposable Element <i>Ds</i> Is Differentially Spliced from Primary Transcripts in Endosperm and Suspension Cells	Shailesh K. Lal and L. Curtis Hannah	798
Defining Functional Domains of Ku80: DNA End Binding and Survival after Radiation	O. Osipovich, R. J. Duhe, P. Hasty, S. K. Durum, and K. Muegge	802
Identification and Characterization of PNK β , a Novel Isoform of Protein Kinase PKN: Expression and Arachidonic Acid Dependency Are Different from Those of PKN α	Kumiko Oishi, Hideyuki Mukai, Hideki Shibata, Mikiko Takahashi, and Yoshitaka Ona	808
Inhibition and Binding Studies of Coenzyme A and Bovine Phenol Sulfotransferase	Michael Leach, Emily Cameron, Nathan Fite, Jerry Stassinopoulos, Neal Palmreuter, and Joe D. Beckmann	815

Integrins Mediate the Inhibitory Effect of Focal Adhesion on Angiotensin II-Induced p44/42 Mitogen-Activated Protein (MAP) Kinase Activity in Human Mesangial Cells	Yasushi Shikata, Kenichi Shikata, Mitsuhiro Matsuda, Keita Hiragushi, Daisuke Ogawa, Hikaru Sugimoto, Jun Wada, and Hirofumi Makino	820
A Novel Vaccine Delivery System Using Immunopotentiating Fusogenic Liposomes	Akira Hayashi, Tsuyoshi Nakanishi, Jun Kunisawa, Masuo Kondoh, Susumu Imazu, Yasuo Tsutsumi, Keiichi Tanaka, Hiromi Fujiwara, Toshiyuki Hamaoka, and Tadanori Mayumi	824
An <i>Arabidopsis thaliana</i> cDNA Complements the N-Acetylglucosaminyltransferase I Deficiency of CHO Lec1 Cells	Hans Bakker, Arjen Lommen, Wilco Jordi, Willem Stiekema, and Dirk Bosch	829
Troglitazone Suppresses Cell Growth of Myeloid Leukemia Cell Lines by Induction of p21WAF1/CIP1 Cyclin-Dependent Kinase Inhibitor	Atsushi Sugimura, Yoshimitsu Kiriya, Hiromi Nochi, Hiroyuki Tsuchiya, Kouichi Tamoto, Yuhsuke Sakurada, Michio Ui, and Yukiko Tokumitsu	833
Primary Structure of <i>Dioclea glabra</i> Trypsin Inhibitor, DgTI, a Bowman-Birk Inhibitor	Norlene R. Bueno, Hans Fritz, Ennes A. Auerswald, Reinhart Mentele, Misako Sampaio, Claudio A. M. Sampaio, and Maria Luiza V. Oliva	838
Mutagenic Activity and DNA Adduct Formation by 1,2-Epoxy-3-(p-nitrophenoxy)propane, an HIV-1 Protease Inhibitor and GST Substrate	Boctor Said, Diane C. Matsumoto, Ali K. Hamade, and Ronald C. Shank	844
Overexpression of c-Fos Enhances the Transcription of Human Arachidonate 12-Lipoxygenase in A431 Cells	Ben-Kuen Chen and Wen-Chang Chang	848
An Aldose Reductase Inhibitor Prevents the Glucose-Induced Increase in PDGF- β Receptor in Cultured Rat Aortic Smooth Muscle Cells	Yasuhide Kasuya, Jiro Nakamura, Yoji Hamada, Mikihiro Nakayama, Hiromitsu Sasaki, Taku Komori, Sadao Chaya, Genichi Watanabe, Keiko Naruse, Eitaro Nakashima, Koichi Kato, and Nihishi Hotta	853
Transcriptional Activation of Apurinic/Apyrimidinic Endonuclease (Ape, Ref-1) by Oxidative Stress Requires CREB	Sabine Grösch and Bernd Kaina	859
Isolation of Differentially Expressed cDNAs from p53-Dependent Apoptotic Cells: Activation of the Human Homologue of the <i>Drosophila</i> Peroxidase Gene	Nobuo Horikoshi, Jainping Cong, Nikoli Kley, and Thomas Shenk	864
Role of the β_3 -Adrenergic Receptor and/or a Putative β_4 -Adrenergic Receptor on the Expression of Uncoupling Proteins and Peroxisome Proliferator-Activated Receptor- γ Coactivator-1	Olivier Boss, Eric Bachman, Antonio Vidal-Puig, Chen-Yu Zhang, Odile Peroni, and Bradford B. Lowell	870
Carbachol Activates I κ B Kinase in Isolated Canine Gastric Parietal Cells	Andrea Todisco, Saravanan Ramamoorthy, Nonthalee Pausawasdi, and Kristina Tacey	877

A [2Fe-2S] Protein from the Hyperthermophilic Bacterium <i>Aquifex Aeolicus</i>	Claire Chatelet, Jacques Gaillard, Yves Pétillot, Mathilde Louwagie, and Jacques Meyer	885
p27 Modulates Cell Cycle Progression and Chemosensitivity in Human Malignant Glioma	Ulrike Naumann, Simone Weit, Lorenz Rieger, Richard Meyermann, and Michael Weller	890
Heregulin Regulation of Akt/Protein Kinase B in Breast Cancer Cells	Wei Liu, Jinping Li, and Richard A. Roth	897
Expression of Collagenase-3 (MMP-13) in Human Abdominal Aortic Aneurysms and Vascular Smooth Muscle Cells in Culture	Dongli Mao, Jason K. Lee, Sarah J. VanVickle, and Robert W. Thompson	904
TIP120B: A Novel TIP120-Family Protein That Is Expressed Specifically in Muscle Tissues	Tsutomu Aoki, Nami Okada, Michiko Ishida, Shingo Yogosawa, Yasutaka Makino, and Taka-aki Tamura	911
Hepatic Ischemia/Reperfusion in Rats Induces iNOS Gene Transcription by Activation of NF- κ B	Gang Min Hur, Young Sue Ryu, Hyo Yung Yun, Byeong Hwa Jeon, Yong Man Kim, Jeong Ho Seok, and Jae Heun Lee	917
Insect Glycobiology: A Lectin Multigene Family in <i>Drosophila melanogaster</i>	Ulrich Theopold, Michael Rissler, Marco Fabbri, Otto Schmidt, and Shunji Natori	923
Author Index for Volume 261		928

NOTICE

The Subject Index for Volume 261 will appear as part of a cumulative index for the year 1999.